

The motion of objects, whether it be uniform or non-uniform, can be represented using 3 very important graphs.

- ① position-time (d-t) graphs which show the position of an object wrt time
- ② velocity-time (v-t) graphs which shows the velocity of an object wrt time
- ③ acceleration-time (a-t) graphs which shows the acceleration of an object wrt time

However, it is important to realize that the motion depicted in the graphs always represents motion in a straight line. As such, various information can be gathered from each of these graphs. They are:

GRAPH	INFORMATION	HOW
d-t	d position	read from graph
	Δd distance	read from graph
	Δd displacement	read d_1 & d_2 from graph & subtract ($d_2 - d_1$)
	v speed (average, constant)	$\Delta d / \Delta t$
	v velocity (average, constant)	slope of line joining two points
	a acceleration	not possible
v-t	d position	add displacements
	Δd displacement	area under line
	v velocity	read from graph
	a acceleration	slope of line joining two points
a-t	Δd displacement	not possible
	v velocity	area under line
	a acceleration	read from graph